



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,361	10/22/2007	Hing L. Chiu	AGTZ 200072US01	6033
27885	7590	05/20/2010		
FAY SHARPE LLP 1228 Euclid Avenue, 5th Floor The Halle Building Cleveland, OH 44115			EXAMINER TRIEU, THERESA	
			ART UNIT 3748	PAPER NUMBER
			MAIL DATE 05/20/2010	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,361	Applicant(s) CHIU, HING L.	
	Examiner Theresa Trieu	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>Aug. 14, 2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is responsive to the applicant's amendment filed on May 10, 2010.

Claims 1 and 12 have been amended. Claims 2 and 17 have been canceled. Overall, claims 1 and 3-16 are pending in this application.

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 204, 206 (see page 8, para. [0052], line 3, Figs. 4-6). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 44' (see Fig. 6). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet

Art Unit: 3748

submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-6, 11, 12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Joy (Patent Number 5,403,173) or Waddleton (Patent Number 5,417,556) in view of Dunn (Patent Number 3,770,332).

Regarding claims 1, 12, 14 and 15, Joy (as shown in Fig. 1-6) or Waddleton (as shown in Figs. 1-4) discloses a gear pump comprising: a housing including an interior pumping chamber (12, 14 in Joy; 12, 14 in Waddleton); an inlet (36 in Joy; 42 in Waddleton) to the chamber; an outlet (40 in Joy; 44 in Waddleton) from the chamber and spaced from the inlet; a pair of rotating gears (16, 18 in Joy; 34, 35 in Waddleton) in the chamber, the gears including teeth which mesh during gear rotation, each gear being fixedly secured on a shaft having an axis of rotation; and a pair of one-piece bearings (22, 24 in Joy; 48, 50 in Waddleton) located in the chamber and journaling one of first and second end portions of each shaft (20, 26 in Joy; 32, 33 in Waddleton), the one-piece bearings providing precise alignment of the first and second end portions of the shafts and maintaining the shafts in parallel relation; each bearing (22, 24 in Joy;

Art Unit: 3748

48, 50 in Waddleton) is homogenous and has a substantially uniform composition throughout. However, Joy or Waddleton fails to disclose material which makes up one-piece bearings.

Regarding claims 1 and 12, Dunn teaches that it is conventional in the art to utilize one-piece bearings being manufactured from powdered metal (see abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the powdered metal one-piece bearings, as taught by Dunn in the Joy or Waddleton apparatus, since the use thereof would have improved the performance and efficiency of the gear pump device.

Regarding claims 3-6 and 11, Joy further discloses each one-piece bearing 22, 24 has a generally oblong cross section (see Figs. 5 and 6); each one-piece bearing including a top surface, a bottom surface, a pair of openings having center axes coincident with the axes of rotation of the shafts, and first and second elongated sides, opposing ends of the first side being joined to corresponding opposing ends of the second side by a pair of arcuate ends; the first elongated side being parallel to the second elongated side; the first and second elongated sides being generally planar (see col. 3, line 25-42); each gear 16, 18 being secured perpendicularly on each shaft 20, 26.

Note that regarding claims 12, 14 and 15 (method claim), the modified Joy or Waddleton teaches a gear pump comprising a pair of one piece bearings being homogenous having substantially all features as discussed supra. Under the principles of inherency, if a prior art device, in its normal and usual operation, would perform the method claimed, then the method claimed will be considered inherent by the prior art device. When the prior art device is obviously the same as a device described in the specification for carrying out the claimed

Art Unit: 3748

method, it can be assumed the device would obviously perform the claimed process. *In re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). See MPEP 2112.02.

4. Claims 7-9, 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Joy or Waddleton in view of Dunn as applied to claims 1 and 12 above, and further in view of Burr (Patent Number 5,538,355).

Regarding claims 7 and 16, the modified Joy or Waddleton discloses the invention as recited above; however, the modified Joy or Waddleton fails to disclose material which makes up gears.

Burr teaches that it is conventional in the art to utilize gears being manufactured from powdered metal (see col. 1, line 10-15). With regard claims 8, 9 and 13, Burr further discloses each gear 10 includes an opening adapted to receive the shaft 40 thereby allowing for self alignment of the teeth of the gears as the gears mesh; wherein each shaft 40 including an axial recess and each gear 10 including an axial groove dimensioned to receive a pin 50 for preventing rotation of the gears on the respective shafts. It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the powdered metal gear, as taught by Burr in the modified Joy or Waddleton apparatus, since the use thereof would have improved the performance and provided a lower cost gear pump.

Art Unit: 3748

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Joy or Waddleton in view of Dunn as applied to claim 1 above, and further in view of Burr (Patent Number 5,538,355).

Regarding claim 10, the modified Joy or Waddleton discloses the invention as recited above; however, the modified Joy or Waddleton fails to disclose first and second grooves extending radially about the periphery of each shaft for receiving snap rings.

Prijatel teaches that it is conventional in the art to utilize each shaft 8, 9 including first and second grooves extending radially about the periphery of each shaft for receiving associated snap rings 14. It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the snap rings being radially about the periphery of each shaft, as taught by Prijatel in the modified Joy or Waddleton apparatus, since the use thereof would have prevented the leakage.

Prior Art

6. The IDS (PTO-1449) filed on Aug. 14, 2006 has been considered. An initialized copy is attached hereto.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa Trieu whose telephone number is 571-272-4868. The examiner can normally be reached on Monday-Friday 8:30am- 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on 571-272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3748

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TT

/Theresa Trieu/
Primary Examiner, Art Unit 3748